

In the Claims:

Please amend the claims as follows:

1. (Previously Amended) An in vitro method of enhancing the transcription of a gene in a DNA construct when the DNA construct is incorporated into the genome of a eukaryotic host cell, the method comprising:

(a) providing a DNA construct comprising a structural gene for a desired protein or polypeptide, a gene promoter upstream of and operably linked to the structural gene, and six copies of an enhancer element upstream of the promoter;

(b) transfecting the eukaryotic host cell to incorporate the DNA construct into the genome of the host cell; and

(c) exposing the DNA construct in the eukaryotic host cell to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof;

wherein the enhancer element comprises the nucleotide sequence TTCTGAGAA, with the proviso that the nucleotide sequence does not contain the DNA sequence of nucleotide sequence SEQ ID NO:1, and wherein the enhancer element is responsive to both lactogenic hormones and somatogenic hormones.

2. (Previously Amended) The method according to claim 1, wherein the enhancer element consists essentially of the nucleotide sequence TTCTGAGAA.

3-7. (Canceled)

Applicant : Gunnar Norstedt et al.
Serial No. : 08/963,288
Filed : November 3, 1997
Page : 3 of 14

Attorney's Docket No.: 13425-128001 / PH-1521-US

8. (Previously Amended) An expression vector comprising a structural gene encoding a desired protein or polypeptide and a promoter, wherein the vector further comprises six enhancer elements, and further wherein each of the enhancer elements consists essentially of the nucleotide sequence SEQ ID NO:1.

9. (Previously Amended) An expression vector according to claim 8, wherein the promoter is a thiamine kinase promoter.

10. (Previously Amended) An expression vector comprising a structural gene encoding a desired protein or polypeptide and a promoter, wherein the vector further comprises six enhancer elements, and further wherein each of the enhancer elements consists essentially of the nucleotide sequence TTCTGAGAA.

1
cont

11. (Previously Amended) An isolated eukaryotic host cell containing the expression vector according to claim 8.

12-15. (Canceled)

16. (Previously Amended) An isolated eukaryotic host cell containing the expression vector according to claim 9.

17. (Previously Amended) An isolated eukaryotic host cell containing the expression

vector according to claim 10.

18. (Canceled)

19. (Previously Amended) An in vitro method of enhancing the transcription of a gene in a DNA construct, the method comprising:

- (a) providing a first DNA construct comprising a structural gene and a promoter upstream of the structural gene,
- (b) incorporating the nucleotide sequence consisting of TTCTGAGAA into the first DNA construct upstream of the promoter, thereby producing a second DNA construct,
- (c) transfected a eukaryotic host cell to incorporate the second DNA construct into the genome of the host cell; and
- (d) exposing the second DNA construct in the eukaryotic host cell to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof.

20. (Previously Added) A method according to claim 19, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

21. (Previously Added) A method according to claim 20, wherein the hormone is selected from the group consisting of prolactin, placenta lactogen and mixtures thereof.

22-33. (Canceled)

34. (Previously Amended) An in vitro method of enhancing the transcription of a gene in a DNA construct comprising a structural gene, a promoter upstream of the structural gene, and at least one enhancer upstream of the promoter; the method comprising placing the DNA construct in an environment wherein transcription can occur; and exposing the DNA construct to a hormone selected from the group consisting of lactogenic hormones, somatogenic hormones and mixtures thereof; wherein the enhancer element consists essentially of the nucleotide sequence

L\ TTCTGAGAA.

cont

35. (Previously Added) A method according to claim 34, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures thereof.

36. (Previously Added) A method according to claim 35, wherein the hormone is selected from the group consisting of prolactin, placenta lactogen and mixtures thereof.

37-38. (Canceled)

39. (Previously Added) A method according to claim 1, wherein the hormone is selected from the group consisting of growth hormone, prolactin, placenta lactogen and mixtures

thereof.

40. (Previously Added) A method according to claim 39, wherein the hormone is prolactin.

41. (Previously Amended) An in vitro method of enhancing transcription of a structural gene, comprising the steps of:

- (a) preparing a plasmid DNA construct comprising a structural gene, a promoter upstream of the structural gene, and at least one enhancer consisting of the sequence TTCTGAGAA upstream of the promoter;
- L1
Canc
(b) transfecting a cell with the plasmid DNA construct; and
- (c) exposing the cell to prolactin.

42. (Previously Amended) An in vitro method according to claim 41, wherein the plasmid DNA comprises up to six enhancers.

43. (Canceled)

44. (Previously Amended) An isolated DNA construct comprising a promoter operably linked to a structural gene downstream from said promoter, and six repeats of an enhancer element upstream from said promoter, wherein the enhancer element consists essentially of the sequence TTCTGAGAA.

45. (Previously Amended) An isolated DNA construct according to claim 44, wherein the enhancer consists of the sequence TTCTGAGAA.

46. (Previously Amended) An in vitro method of enhancing the transcription of a gene, the method comprising the steps of:

- (a) providing a DNA construct comprising the gene, a promoter upstream of the gene, and at least one copy of the nucleotide sequence TTCTGAGAA upstream of the promoter;
- (b) transfecting the cell with the DNA construct, and
- (c) exposing the DNA construct to prolactin.

L1
const
47. (Previously Amended) An in vitro method according to claim 46, wherein the DNA comprises multiple copies of the nucleotide sequence TTCTGAGAA.

48. (Previously Amended) An in vitro method according to claim 47, wherein the DNA construct comprises six copies of the nucleotide sequence TTCTGAGAA.

49. (Canceled)

50. (Previously Amended) An in vitro method according to claim 34, wherein the transfecting step comprises transfecting the eukaryotic cell with a plasmid comprising the DNA construct.

51. (Canceled)

52. (Previously Added) The method according to claim 2, wherein the enhancer element consists of the nucleotide sequence TTCTGAGAA.

53. (Canceled)

55
54. (New) An in vitro method of enhancing transcription of a nucleotide sequence, the method comprising:

L1
Cont
providing a eukaryotic cell comprising an expression vector comprising (i) a nucleotide sequence encoding a desired protein, (ii) a promoter upstream of the nucleotide sequence, and (iii) an element upstream of the promoter comprising the sequence TTCTGAGAA; and

contacting the cell with a lactogenic hormone, thereby enhancing transcription of the nucleotide sequence.

56
55. (New) The method of claim 54, wherein the lactogenic hormone is prolactin.

57
56. (New) The method of claim 54, wherein the element comprises the sequence GATCTACGCTTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).

58

57. (New) The method of claim 54, wherein the element comprises six copies of the sequence TTCTGAGAA.

59

58. (New) The method of claim 54, wherein the element comprises six copies of the sequence GATCTACGCTTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).

60

59. (New) An in vitro method of enhancing transcription of a nucleotide sequence, the method comprising:

providing an expression vector comprising (i) a nucleotide sequence encoding a desired protein, (ii) a promoter upstream of the nucleotide sequence, and (iii) an element upstream of the promoter comprising the sequence TTCTGAGAA;

*L1
cont*

transfected a eukaryotic cell with the expression vector; and

contacting the cell with a lactogenic hormone, thereby enhancing transcription of the nucleotide sequence.

61

60. (New) The method of claim 59, wherein the lactogenic hormone is prolactin.

62

61. (New) The method of claim 59, wherein the element comprises the sequence GATCTACGCTTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).

63 ~~62~~. (New) The method of claim 59, wherein the element comprises six copies of the sequence TTCTGAGAA.

64 ~~63~~. (New) The method of claim 59, wherein the element comprises six copies of the sequence GATCTACGCTTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).

65 ~~64~~. (New) An in vitro method of enhancing transcription of a nucleotide sequence, the method comprising:

L1
cont constructing an expression vector comprising (i) a nucleotide sequence encoding a desired protein, (ii) a promoter upstream of the nucleotide sequence, and (iii) an element upstream of the promoter comprising the sequence TTCTGAGAA transfecting a eukaryotic cell with the expression vector; and contacting the cell with a lactogenic hormone, thereby enhancing transcription of the nucleotide sequence.

66 ~~65~~. (New) The method of claim 64, wherein the lactogenic hormone is prolactin.

67 ~~66~~. (New) The method of claim 64, wherein the element comprises the sequence GATCTACGCTTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).

68 ~~67~~. (New) The method of claim 64, wherein the element comprises six copies of the

Applicant : Gunnar Norstedt et al.
Serial No. : 08/963,288
Filed : November 3, 1997
Page : 11 of 14

Attorney's Docket No.: 13425-128001 / PH-1521-US

R.1.126
LJ *69*
68 sequence TTCTGAGAA.

(New) The method of claim 64, wherein the element comprises six copies of the sequence GATCTACGCTTCTACTAATCCATGTTCTGAGAAATCATCCAGTCTGCCATG (SEQ ID NO:1).
